

## Clay Center for The Arts and Sciences of WV

On February 19, NASA IV&V's Educator Resource Center, along with local engineering firms, colleges and universities, provided educational hands-on activities and displays relating to the engineering field at the Clay Center for the Arts and Sciences of WV in Charleston.

*Visitors using the ERC's robotic arm to move materials*



Visitors also had the opportunity to view the history of NASA in an art exhibit featuring photographs, paintings, and sculptures by famous and not so famous artists from around the world. Entitled "NASA Art: 50 Years of Exploration," the exhibit will be at the Clay Center until May 8 along with the "A View from Space Exhibit."

According to the Clay Center the space exhibit is an interactive collection of activities that allows visitors "to track a hurricane from space, send a satellite spin-

*IV&V's model Space Shuttle on display at the Clay Center*



*Girl Scout Leaders at the NASA Booth*

ning into orbit around a model Earth, study astonishing images of our planet captured by NAS's Earth Observing System, and more."

Guests will also be able to see a selection of meteorites and a real moon rock from the Apollo 17 mission. Touring the art and

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space exhibits is a wonderful way for people to spend some quality time with friends and family. *See more photos on page 3.*

## Children's Discovery Museum

The Children's Discovery Museum of WV (formerly the Morgantown Fun Factory) recently held a Space Day event at Mountaineer Mall in Morgantown. This event was open to members of the museum and the general public.

Visitors that day were able to take a "Tour of the Solar System: performing hands-on activities as they stopped by various planets. The Starlab inflatable planetarium on loan from the ERC was used to take people on a constellation tour.



*Lining up to view constellations*

The mission statement for CDM states: "Our mission is to provide hands-on permanent and rotating exhibits, along with programs that actively engage families in the educational process. The

Children's Discovery Museum will provide indoor and outdoor spaces that allow children to play with materials, exhibits and play structures while offering new information at natural learning points. Programs and exhibits will be offered with an appreciation for children's natural affinity for learning, respect for families' desires to encourage their children's potential and a desire to encourage every visitor's curiosity about our world and community. Areas of inquiry will include: environmental awareness, the science and math of everyday things, the natural history of our area's mountains and rivers, healthful

living and exposure to and self-expression through, the arts. For each area of inquiry we will strive to offer exhibits and programs that encourage diverse perspectives and the integration of multiple fields of inquiry in the study of any topic.

*Completing a constellation and a rocket activity*



## SEEC- ERCN

The Space Exploration Educators Conference (SEEC) was held at Johnson Space Center in Houston, TX, February 3-5. This conference offered educators from around the world workshops on a variety of space related topics from Life on Mars taught by astrobiologists to Creating Electricity with Paper and Charcoal taught by the Japanese Space Agency (JAXA). Tours of many sites from robotics labs to mission control were provided.

The national Educator Resource Center



Network meeting was held prior to SEEC, February 1-2, at Johnson Space Center in Houston, Texas. Educator Resource Center staffs from around the nation met to exchange information about the workings of individual ERC's, to learn of new programs and materials available from NASA, and to meet with their regional ERCs.

*Above: ERC staff from CA, WV, and FL.*

*Left: Tour of Mission Control*



## CAAC: Astronomy Day



The Central Appalachian Astronomy Club hosted their annual Astronomy Day at the Gaston Caperton Convention Center in Clarksburg, January 15.

The day included talks by astronomers. D.J. Pisano spoke about Galaxies while Mark "Indy" Kochte told of the latest findings from the Messenger mission to Mercury and gave a second talk on the Solar System.

Visitors were able to examine a variety of telescopes belonging to members and to NASA IV&V's ERC. Also, available were free posters, bookmarks, educator guides and other materials from the club and the ERC.

*Left: Part of the Telescope Display at CAAC's Astronomy Day*

There were activities for youth such as night sky tours in the Starlab portable planetarium, creating pop rockets, and designing spacesuits.

The CAAC, along with the National Radio Astronomy and the Kanawha Astronomy Club sponsors the Green Bank Star Quest. This is the 8th year for this prestigious

*Below: Educator Resource Center booth*



event. It is the largest joint optical and radio astronomy event in the nation. Nationally famed speakers and interesting workshops as well as excellent dark sky

## Upcoming ERC Workshops and Events

**March 8 Sun-Earth Day and Space Weather Action Centers Webinar**

.....3:00-4:30 pm

**March 12 Cratering, Sunspotters, Basic Rocketry, Lunar Certification**

.....10:00 am-5:00 pm

**March 17 Rockin' Through the Rock Cycle Webinar** .....3:00-5:00 pm

**March 26 Spaced Out Saturday at the Clay Center (ERC display)**

.....10:00 am-4:00 pm

**April 2 Intro. To GPS Webinar** .....11:00 am-12:00 pm

**April 4 Elementary WeDo Lego Robotics**.....4:00-7:00 pm

**April 19 Intro. To GLOBE, Probes and GIS**.....10:00 am-4:00 pm

**May 18 Energy Extravaganza: Science, Hydrogen, Wind, Solar** .....10:00 am-4:00 pm



*Above: Joe Gonzales, CAAC President, introduces a guest speaker.*

viewing highlight this event. For more information about Star Quest VIII and the astronomy club visit:

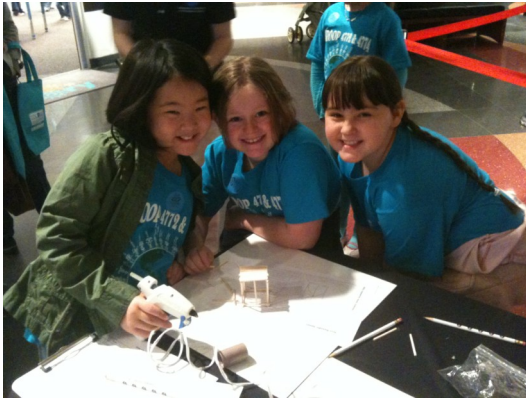
[http://www.caacwv.com/special\\_events.htm](http://www.caacwv.com/special_events.htm)

*Below: Mercury Messenger presentation*





## Clay Center continued from page 1



*Above: A trio of scouts proudly display their launch structure before testing its strength.*



*Above: Todd Ensign, ERC Program Manager, hold up the Earth in front of the display Space: The Final Frontier.*



*Left: Amy Phillips, ERC Intern, helps with building a launch structure.*

To learn more about the Clay Center's offerings check out their web-site:

[www.theclaycenter.org](http://www.theclaycenter.org)

*Below: Pam Casto, ERC Education Specialist, stands next to the IV&V's model of the experimental space-craft, the X-33.*



## WV Industrial Home for Youth Educators Workshop

Educators from the WV Industrial Home for Youth in Salem WV were recently at the ERC for an entire day becoming certified to check out both the Basic Rocketry and the Model Rocketry Kits from the Equipment Loan Program.

Educators built and launched air rockets and water bottle rockets in the morning and model rockets in the afternoon. The high wind in the afternoon resulted in some spectacular flights.

Using the Rocket Educator Guide they also explored other activities such as the History of Rockets, payload activities, and rocket racers.

These dedicated teachers will be returning to the ERC for another all day training March 18 on which includes Physics of Flight and Fly by Math.



*Top Center: Five model rockets ready to launch on the ERC's multi-launcher.*

*Bottom Center: An air rocket countdown to launch in progress.*

*Bottom Right: 50 pounds per square inch of air pressure being built up prior to launching the water bottle rockets.*



## The ERC Staff

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ERC Website: <http://erc.ivv.nasa.gov>

*The NASA Independent Verification and Validation Program Educator Resource Center's goal is to serve teachers, informal educators, and pre-service teachers to enable them to reach their goals. Through a grant with Fairmont State University, the NASA IV&V Program ERC provides materials, equipment for loan, and professional development workshops for informal and formal educators both at the facility and around the state of West Virginia that reflect NASA's current research and technology.*

## Links to Student Competitions

First Lego League Robotics:

<http://www.firstlegoleague.org/>

Real World Design Challenge:

<http://www.realworlddesignchallenge.org/>

Team America Rocketry Challenge:

<http://rocketcontest.org/>

Green Aviation Contests:

<http://aero.larc.nasa.gov/competitions.htm>



## Quote of the Month:

*Our species needs, and deserves, a citizenry with minds wide awake and a basic understanding of how the world works.*

Dr. Carl Sagan, Astronomer, Author, Scientist

## Where in WV is the ERC?

February Workshops in Red

February Equipment Loans in Blue

**To schedule a workshop:**

Contact the ERC by calling 304-367-8436 or emailing:

[pamela.casto@ivv.nasa.gov](mailto:pamela.casto@ivv.nasa.gov)

**To schedule equipment for loan:**

First check the equipment loan calendar on the ERC website to see if the equipment is available for the dates desired. Then email Amy Phillips who will schedule the dates.

[amy.phillips@ivv.nasa.gov](mailto:amy.phillips@ivv.nasa.gov)

Calling Amy Friend at 304-367-8251 is also an option for scheduling.

